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CENTRAL INTELLIGENCE AGENCY CODEWORD ROUTING SHEET

TO		INITIALS	DATE
1	Ch/D/MS	Jun	190ct 64
2	Ch/St/P/C 25X1		
3	Attn:		
4	SA/RR		
5			
. 6			
FROM		INITIALS	DATE
ı	Ch/MS/EE	J. Joseph	19 62
2		7	
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Approval	Information	Signatur
Action	Direct Reply	Return
Comment	Preparation of Reply	Dispatch
Concurrence	Recommendation	File

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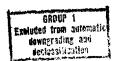
20 OCT 1964

MEMORANDUM NO:	6360-5		
NEMORANDUM FOR:			
SUBJECT:	Reply to Soviet Production of	Request for Information of High Gain-Bandwidth Tubes	n 25X1
,		25X1	25X1
been briefed by	time this reaches you,	on this matter.	was in

25X1

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- 2. The CIB article to which your letter refers was based on a joint ORR/OSI examination of reports of large Swedish exports to the USSR of 5 and 3 micron gold-plated tungsten wire. Total orders for the past twelve months come to a little more than ten million meters. US industry sources, including producers of the tungsten tire and electron tubes, know of no alternative use of this type wire except in grid structures for low noise and high G-BV tubes. Furthermore, there is a body of Seviet literature devoted to the technology of production of these tubes utilizing 5 and 3 mieron gold-plated tungsten wire. In this family the 6Zh9P is the earliest tube produced in the USSR, but an examination by the US Mational Bureau of Standards indicates that the sample 6200P available here used 10 micron wire. Other Soviet tubes which, according to Soviet specifications, probably use 5 and 8 mieron wire include the following: 6ZhllP. 6Zh23P 6E5P, 6VlP, 25X1 6Zh2OP, 6Zh21P, 6Zh22P, 683P, 6817K, and 6815P. vill have the specifications for these tubes readily available to him 25X1
- 3. We, of course, cannot be sure of the product mix of tubes to be produced from this wire, but the presence of 5 micron wire in the order indicates, based on Soviet texts relating tube dimensions to performance, that 200,000 or more tubes of the highest quality could be manufactured. We have real trouble imputing any particular use for this quantity of tubes because it seems so far in excess of requirements. The remaining several million tubes which can be produced from the 2 micron wire is similarly well above what we would have believed to have been a present Soviet requirement. An advanced radar designed to employ greater signal bandwidths for improved resolution and precise tracking of aircraft, missiles and satellites, appears to be a strong possibility. In the US, radar systems are going to increased signal bandwidths for these purposes.



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25X1 Request for Information on Soviet SUBJECT: Reply to Production of Migh Cain-Bandwidth Tubes 25X1 4. Another development of possible interest to is the recent Soviet purchase from Japan of 33 automatic semiconductor sizeing machines. These machines slice germanium at the rate of about two slices per minute and silicon at the rate of about one slice per minute and a half, with standard size crystals (1 to 1 inches diameter). Our computations, based on US experience of several years ago, indicates that when these machines are installed in a full production cycle and fully utilized, they will support a production volume of several hundred million devices per year. This is based on what we believe is a conservative expectation of 100 chips per slice of germanium or silicon with an average 30 percent yield of good devices. Mr. comments on the above would be most velcome. 25X1 25X1

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